

**IT IS THE VENDOR'S RESPONSIBILITY TO  
CHECK FOR ADDENDA PRIOR TO SUBMITTING PROPOSALS**

**REQUEST FOR PROPOSALS  
SPECIFICATION NO. 04-198**

The City of Lincoln, Nebraska intends to contract for and invites you to submit a sealed proposal for professional engineering services related to the project listed and described below:

**Professional Consultant Services  
for  
Digital Flood Insurance Rate Map (DFIRM)  
Production and Development of Updated Flood Data**

Sealed proposals will be received by the City of Lincoln, Nebraska on or before 12:00 noon, Wednesday, August 18, 2004, in the office of the Purchasing Agent, Suite 200, K Street Complex, Southwest Wing, 440 South 8<sup>th</sup> Street, Lincoln, Nebraska, 68508. Proposals will be publicly opened, reading only the names of those submitting proposals at the 'K' Street Complex.

A pre-proposal conference with question/answer period is scheduled for 9:00 a.m. - 10:00 a.m., July 28, 2004 at Engineering Services, 531 Westgate Blvd, Lincoln, NE in the Training Room, all interested Proposers are encouraged to attend.

A copy of the request for proposal may be obtained from the Purchasing Division Web Site at:  
<http://www.ci.lincoln.ne.us>

All communications relative to this work prior to the opening of the proposals shall be in writing to the Project Selection Committee Chair, Mr. Ben Higgins, P.E., Public Works and Utilities, 901 N. 6<sup>th</sup> St., Lincoln, NE 68508 or email [bhiggins@ci.lincoln.ne.us](mailto:bhiggins@ci.lincoln.ne.us) and cc: Mary Matson, Purchasing Department, fax: 402-441-6513 or email at [mmatson@ci.lincoln.ne.us](mailto:mmatson@ci.lincoln.ne.us)

Submitter should take caution if U.S. mail or mail delivery services are used for the submission of proposals. Mailing should be made in sufficient time for proposals to arrive in the Purchasing Division prior to the time and date specified above. It is the proposer's responsibility to check that they have received all addendums to this RFP.

## **REQUEST FOR PROPOSALS, Spec #04-198**

### **Professional Consultant Services FOR DIGITAL FLOOD INSURANCE RATE MAP (DFIRM) PRODUCTION AND DEVELOPMENT OF UPDATED FLOOD DATA**

- SALT CREEK, North (Stevens Creek confluence to Superior Street)
- SALT CREEK, South (Superior Street to a point 3,000 feet due south of Saltillo Road)

#### **1. GENERAL**

- 1.1 The City of Lincoln, Nebraska desires professional consultant services for Digital Flood Insurance Rate map (DFIRM) Production and Development of Updated Flood Data.

#### **2. ANTICIPATED SCOPE OF WORK and DELIVERABLES**

2.1 For Salt Creek South and North:

2.1.1 Provide services stated in the attached Mapping Activity Statement.

2.1.1.1 Provide services stated in the attached Mapping Activity Statement for Activities 1 and 2 except for the following items:

2.1.1.1.1 City will provide to FEMA the report summarizing methodology and results for the LIDAR survey accomplished in 2003 that will be used as the base survey data for this project.

2.1.1.2 Services for Activities 1 and 2 to include addressing concerns or questions regarding these activities raised by the subsequent QA/QC review, unless they are related to the base survey data.

2.1.1.3 Provide services stated in the attached Mapping Activity Statement for Activities 4, 6 and 8, including addressing all concerns or questions regarding these activities raised by the subsequent QA/QC review.

2.1.1.4 References in the attached Mapping Activity Statement for Activity 4 related to extreme probability-discharge relationships are to be disregarded. The hydrologic method used will be HEC-HMS.

2.1.1.5 Provide assistance with the City's submittal of Mapping Activity State 10, including concerns or questions regarding this activity raised by the subsequent QA/QC review.

2.1.2 The reach length for this project on Salt Creek is approximately 27 miles of main stem.

2.1.3 All mapping files and database formats must be provided in a manner that is fully compatible with the City of Lincoln's (i.e. Public Works and Utilities Department) established computerized geographic information system (ESRI shapefile, Lancaster County GRID).

2.2 Provide Facilitation services as outlined below:

- 2.2.1 Open Houses.
  - 2.2.1.1 The consultant will coordinate and facilitate up to three open houses during the Production and Development of Updated Flood Data.
  - 2.2.1.2 The consultant will be responsible for setting up the meetings, developing presentation materials, and providing notification (mailing brochures) to residents that reside in or near the Salt Creek floodplain between the confluence of Stevens Creek and upgradient of Saltillo Road and to an elected official and staff list.
  - 2.2.1.3 Following each open house, a memorandum will be submitted to the City that summarizes the open house.
- 2.2.2 Conduct Elected Official Meetings.
  - 2.2.2.1 The consultant will coordinate and facilitate up to four meetings with elected officials.
  - 2.2.2.2 The consultant will be responsible for developing presentation materials.
  - 2.2.2.3 Following each meeting, a memorandum will be submitted to the City that summarizes the elected official meeting.
- 2.2.3 Conduct Stakeholder Meetings.
  - 2.2.3.1 The consultant will attend up to ten stakeholder meetings.
  - 2.2.3.2 The consultant will be responsible for developing presentation materials.
  - 2.2.3.3 Following each meeting, a memorandum will be submitted to the City that summarizes the stakeholder meeting.
- 2.2.4 Visual Information
  - 2.2.4.1 Furnish information that can provide a visual format in GIS to assist in explaining to the public the impact of flooding and proposed changes in the flood plain.

### **3. CITY'S RESPONSIBILITY**

- 3.1 Provide available information in regards to Salt Creek, including available as-built drawings for hydraulic bridge structures.
- 3.2 Provide Salt Creek floodplain residents and elected officials and staff contact lists.
- 3.3 Provide timely reviews of the drafts and deliverables.

### **4. PROJECT COORDINATION**

- 4.1 The project manager for the project will be:  
Mr. Ben Higgins, P.E.  
Public Works and Utilities  
901 N. 6th Street  
Lincoln, NE 68508  
[bhiggins@ci.lincoln.ne.us](mailto:bhiggins@ci.lincoln.ne.us)
- 4.2 Contact regarding the request for proposal shall be made only in writing, with the Project Manager, Ben Higgins and cc: Mary Matson, Purchasing Department, fax: 402-441-6513 or email at [mmatson@ci.lincoln.ne.us](mailto:mmatson@ci.lincoln.ne.us)
- 4.3 Any follow-up conversations with City project team will be directed by the Chair, if appropriate.
- 4.4 Any addendas to written questions or clarifications directed to the Chair will be sent out by the City's Purchasing Division and is available on the City of Lincoln's website.

4.5 Verbal responses and/or representations shall not be binding to the City.

**5. SCHEDULE**

5.1 Consultant to indicate their proposed schedule by showing elapsed calendar days from the Notice to Proceed for important milestones (Mapping Activity Statement Activities 1, 2, 4, 6, 8 and 10) and show the ability to meet the anticipated completion date of this project 12 months from contract approval.

**6. PROPOSAL CONTENTS**

6.1 Proposal length: The length of the proposal shall not exceed 10 pages.

6.1.1 The resumes of personnel are not included in this page count.

6.1.2 Cover sheet is not included in this page count.

6.1.3 Reference/project list is not included in this page count.

6.2 Project personnel and experience

6.2.1 Organizational chart of key personnel showing responsibilities and lines of authority.

6.2.2 Brief resumes of key project personnel, including: Name and anticipated role in proposed project and experience/education related to this type of project.

6.2.3 Demonstration of the experience of key personnel and the firm with TSDN format in accordance with Appendix M of the FEMA Guidelines and Specifications for Flood Hazard Mapping Partners, dated April 2003.

6.2.4 Do **not** include experience with CLOMR/LOMR submittals.

6.3 Performance and reference

6.3.1 Provide list of completed projects (no more than 4) similar to this proposal within the last five years that your firm was principal professional..

6.3.1.1 For each project list the project name and location, contact name and work number, time to complete the project, key personnel involved and estimated construction cost of each.

6.3.2 Provide list of current projects and estimated construction costs of each .

6.3.3 Quality assurance/quality control procedures.

6.3.4 Include number of staff usually and currently employed by your firm.

6.4 Approach to proposed project:

6.4.1 Describe general approach to the proposed project including Topographic Data Development, Hydrology, Hydraulics, Floodplain Mapping, Base Map Acquisition, response to FEMA QA/QC comments, and facilitation.

6.4.2 Discuss milestones, deliverables, schedule, and key meetings with the city.

6.4.3 Discuss public involvement and visual information.

**7. EVALUATION CRITERIA AND SELECTION**

7.1 Evaluation will be based on:

7.1.1 Proposal contents as well as references.

7.1.2 Availability of key personnel and their experience.

7.1.3 Demonstrated key personnel experience with TSDN format and FEMA submittals.

7.2 A short list of requested proposals will be selected for an interview and further review.

**8. ESTIMATED FEES**

- 8.1 The City will rank the proposals based on the criteria outlined in the RFP and determine a short list from which oral presentations will be arranged.
- 8.2 The firms selected for oral presentations will be notified by the Purchasing Division and will be asked to prepare a fee schedule and submit in a sealed envelope at the time of interview.
- 8.3 The fee schedule may be used in case of a tie in the ranking of the top firm after the oral presentations.
- 8.4 If the City is unable to arrive at a mutual agreement with the top ranked firm, the City retains the sole right to move on to negotiations with the second (then third, etc.) ranked firm.

**9. INSURANCE**

- 9.1 Successful firm shall obtain all insurance required and approved by the City Attorney for the City of Lincoln. Standard Certificate of Insurance requirements can be found on the City website at <http://interlinc.ci.lincoln.ne.us/city/finance/purch/ci.insur.htm>
- 9.2 All certificates of insurance shall be filed with the City of Lincoln on the standard Accord Certificate Of Insurance form showing the specific limits of insurance coverage required in Sections A,B,C,D, and showing the City of Lincoln as named additional insured.
  - 9.2.1 Such certificate shall specifically state that insurance policies are to be endorsed to require the insurer to provide the City of Lincoln thirty days notice of cancellation, non-renewal or any material reduction of insurance coverage.

**10. SUBMITTAL PROCEDURE**

- 10.1 Submit seven (7) signed copies of your proposal to Mary L. Matson, Assistant Purchasing Agent, City of Lincoln, K Street Complex, Suite 200, 440 South 8 Street, Lincoln, Nebraska, 68508, no later than the date and time stated in the Request for Proposals.
- 10.2 Mark the outside of the container with the Project number and name.
  - 10.2.1 Proposal must be submitted in a sealed envelope or container.
- 10.3 If the proposal is sent by mail, the respondent shall be responsible for actual delivery of the proposal prior to the submittal deadline.
- 10.4 Any response received after the submittal deadline will not be considered.
- 10.5 The City may waive any informalities or irregularities in the proposal and reserves the right to accept, reject, or negotiate any or all proposals, including the right to award the contract in whole or in part if it is deemed in the City's best interest.
- 10.6 Request for clarification or additional information must be received at least seven working days before the submittal deadline.
  - 10.6.1 Any additional information regarding this request for proposal will be issued as written addendum and sent to all request for proposal recipients, at least five working days before the submittal deadline.
  - 10.6.2 The City reserves the right to amend or not amend this project.

# INSTRUCTIONS TO PROPOSERS

## CITY OF LINCOLN, NEBRASKA PURCHASING DIVISION

### 1. PROPOSAL PROCEDURE

- 1.1 Each RFP must be legibly printed in ink or by typewriter, include full name, business address, and telephone no. of the Proposer; and be signed in ink by the Proposer.
- 1.2 Response by a firm/organization other than a corporation must include the name and address of each member.
- 1.3 A response by a corporation must be signed in the name of such corporation by a duly authorized official thereof.
- 1.4 Any person signing a response for a firm, corporation, or other organization must show evidence of his authority so to bind such firm, corporation, or organization.
- 1.5 Proposals received after the time and date established for receiving offers will be rejected.

### 2. EQUAL OPPORTUNITY

- 2.1 Each proposer agrees that it shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, disability, national origin, age, or marital status. In the employment of persons, proposer shall take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to race, color, religion, sex, disability, national origin, age, or marital status.

### 3. DATA PRIVACY

- 3.1 Proposer agrees to abide by all applicable State and Federal laws and regulations concerning the handling and disclosure of private and confidential information concerning individuals and corporations as to inventions, copyrights, patents and patent rights.
- 3.2 The proposer agrees to hold the City harmless from any claims resulting from the proposer's unlawful disclosure or use of private or confidential information.

### 4. PROPOSER'S REPRESENTATION

- 4.1 Each proposer by signing and submitting an offer, represents that he/she has read and understands the specification documents, and the offer has been made in accordance therewith.
- 4.2 Each offer for services further represents that the proposer is familiar with the local conditions under which the work and has correlated the observations with the requirements of the RFP.
- 4.3 Proposer warrants and represents to the City that all software/firmware/hardware/equipment/systems developed, distributed, installed or programmed by Proposer pursuant to this Specification and Agreement.
  - 4.3.1 That all date recognition and processing by the software / firmware / hardware/equipment/system will include the four-digit-year format and will correctly recognize and process the date of February 29, and any related data, during Leap years; and
  - 4.3.2 That all date sorting by the software/

firmware/hardware/equipment/system that includes a "year category" shall be done based on the four-digit-year format. Upon being notified in writing by the City of the failure of any software/firmware/hardware/equipment/systems to comply with this Specification and Agreement, Contractor will, within 60 days and at no cost to the City, replace or correct the non-complying software/firmware/hardware/equipment/systems with software / firmware / hardware/equipment/systems that does comply with this Specification and Agreement.

### 5. INDEPENDENT PRICE DETERMINATION

- 5.1 By signing and submitting this RFP, the proposer certifies that the prices offered have been arrived at independently, without consultation, communication or agreement, for the purpose of restricting competition, with any other proposer competitor; unless otherwise required by law, the prices which have been quoted in this offer have not been knowingly disclosed by the proposer prior to RFP opening directly or indirectly to any other competitor; no attempt has been made, or will be made, by the proposer to induce any person or firm to submit, or not to submit, a response for the purpose of restricting competition.

### 6. SPECIFICATION CLARIFICATION

- 6.1 Proposers shall promptly notify the Purchasing Agent of any ambiguity, inconsistency or error which they may discover upon examination of specification documents.
- 6.2 Proposers desiring clarification or interpretation of the specification documents shall make a written request which must reach the Purchasing Agent at least seven (7) calendar days prior to date and time for response receipt.
- 6.3 Interpretations, corrections and changes made to the specification documents will be made by written addenda.
- 6.4 Oral interpretations/changes to Specification Documents made in any other manner, will not be binding on the City; proposers shall not rely upon oral interpretations.

### 7. ADDENDA

- 7.1 Addenda are written instruments issued by the City prior to the date for receipt of offers which modify or interpret the specification document by addition, deletion, clarification or correction.
- 7.2 Addenda will be mailed or delivered to all who are known by the City to have received a complete set of specification documents.
- 7.3 Copies of addenda will be made available for inspection at the office of the Purchasing Agent.
- 7.4 No addendum will be issued later than forty-eight (48) hours prior to the date and time for receipt of offers, except an addendum withdrawing the RFP, or addendum including postponement.
- 7.5 Proposers shall ascertain prior to submitting their offer that they have received all addenda issued, and they shall acknowledge receipt of addenda in their proposal.

## **8. ANTI-LOBBYING PROVISION**

- 8.1 During the period between the bid close date and the contract award, bidders, including their agents and representatives, shall not directly discuss or promote their bid with any member of the City Council or City Staff except in the course of City-sponsored inquiries, briefings, interviews, or presentations, unless requested by the City.

## **9. EVALUATION AND AWARD**

- 9.1 The signed proposal shall be considered an offer on the part of the proposer. Such offer shall be deemed accepted upon issuance by the City of purchase orders, contract award notifications, or other contract documents appropriate to the work.
- 9.2 No offer shall be withdrawn for a period of ninety (90) calendar days after the time and date established for receiving offers, and each proposer agrees in submitting an offer.
- 9.3 In case of a discrepancy between the unit prices and their extensions, the unit prices shall govern.
- 9.4 The RFP process is designed to be a competitive negotiation platform, where price is not required to be the sole determinative factor; also the City has the flexibility to negotiate with a select firm or selected firms to arrive at a mutually agreeable relationship.
- 9.5 A committee will be assigned the task of reviewing the proposals received.
- 9.5.1 The committee may request documentation from Proposer(s) of any information provided in their proposal response, or require the Proposer to clarify or expand qualification statements.
- 9.5.2 The committee may also require a site visit and/or verbal interview with a Proposer or select group of Proposers to clarify and expand upon the proposal response.
- 9.6 The offer will be awarded to the lowest responsive, responsible proposer whose proposal will be most advantageous to the City, and as the City deem will best serve their requirements.
- 9.7 The City reserves the right to accept or reject any or all offers, parts of offers; request new proposals, waive irregularities and technicalities in offers; or to award the RFP on a split-order basis, or lump-sum basis; such as shall best serve the requirements and interests of the City.

## **10. INDEMNIFICATION**

- 10.1 The proposer shall indemnify and hold harmless the City, its members, its officers and employees from and against all claims, damages, losses, and expenses, including, but not limited to attorney's fees arising out of or resulting from the performance of the contract, provided that any such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property other than goods, materials and equipment furnished under this contract) including the loss of use resulting therefrom; is caused in whole or part by any negligent act or omission of the proposer, any subcontractor, or anyone directly or indirectly employed by any one of them or anyone for whose acts made by

any of them may be liable, regardless of whether or not it is caused by a party indemnified hereunder.

- 10.2 In any and all claims against the City or any of its members, officers or employees by an employee of the proposer, any subcontractor, anyone directly or indirectly employed by any of them or by anyone for whose acts made by any of them may be liable, the indemnification obligation under paragraph 10.1 shall not be limited in any way by any limitation of the amount or type of damages, compensation or benefits payable by or for the proposer or any subcontractor under worker's or workmen's compensation acts, disability benefit acts or other employee benefit acts.

## **11. LAWS**

- 11.1 The Laws of the State of Nebraska shall govern the rights, obligations, and remedies of the Parties under this proposal and any agreement reached as a result of this process.

## **12. AWARD**

- 12.1 The RFP process is designed to be a competitive negotiation platform, where price is not required to be the sole determinative factor; also the City has the flexibility to negotiate with a selected firm or firms to arrive at a mutually agreeable relationship.
- 12.2 The City shall be the sole judge as to merits of the proposal, and the City's decision will be final.
- 12.3 A committee will be assigned by the Mayor with the task of reviewing the proposals received.
- 12.3.1 The committee may request documentation from Proposer(s) of any information provided in their proposal response, or require the proposer to clarify or expand qualification statements.
- 12.3.2 A short list of firms from proposals submitted may be selected for a presentation to the committee and ranked by committee members.
- 12.4 Final approval to enter into contract negotiations with the top ranked firm will be by the Mayor of the City of Lincoln.
- 12.5 The City shall not be liable for any expense incurred in connection with preparation of a response to this RFP.
- 12.6 The contract document shall incorporate by reference all requirements, terms and conditions of the solicitation, proposal received and all negotiated details.

## **13. AFFIRMATIVE ACTION**

- 13.1 The City of Lincoln-Lancaster County Purchasing Division provides equal opportunity for all bidders and encourages minority businesses and women's business enterprises to participate in our bidding process.

## **14. LIVING WAGE**

- 14.1 The proposers agree to pay all employees employed in the performance of this contract, a base wage of not less than the City Living Wage per section 2.81.010 of the Lincoln Municipal Code. This wage is subject to change up or down every July.



**City of Lincoln, Nebraska  
Cooperating Technical Partner  
Mapping Activity Statement**

**Statement 1 – Digital Flood Insurance Rate Map (DFIRM) Production and Development of Updated Flood Data**

In accordance with the Cooperating Technical Partners (CTP) Memorandum of Agreement dated January 15, 2003, between the City of Lincoln, Nebraska and the Federal Emergency Management Agency (FEMA), Mapping Activity Statement 1 is as follows:

- 1. Statement Objective and Scope:** The objective of this Mapping Activity for the City of Lincoln, Nebraska – Beal Slough, Southeast Upper Salt Creek, Stevens Creek, Cardwell Brach, and Salt Creek Study Areas are to develop a new or updated Digital Flood Insurance Rate Map(s) (DFIRM) and Flood Insurance Study (FIS) report(s) for the City of Lincoln, Lancaster County, Nebraska. The FIS and DFIRM will be produced in countywide DFIRM format.

Additionally, this project will include developing new and/or updated flood hazard data, as summarized in the following table:

Flooding Source	Reach Limits	Reach Length	Detailed Riverine		Detailed Coastal				Redelin-eation of SFHAs Using Effective Profiles	Refine/ Establish Zone A
			Hydrology	Hydraulics	Stillwater	Wave Height	Wave Runup	Erosion		
Beal Slough	Confluence with Salt Creek to S. 84th Street	17 miles, 9.7 miles of main stem and 7.3 miles of tribs	X	X						
Southeast Upper Salt Creek Main Tributary	Confluence with Salt Creek to 70 <sup>th</sup> Street	7.3 miles, 4.4 miles main stem and 2.9 miles of tribs	X	X						
Southeast Upper Salt Creek South Tributary	Confluence with Salt Creek to S. 40 <sup>th</sup> Street	2.1 miles, 1.4 miles of main stem and 0.7 miles of tribs	X	X						



Stevens Creek Main Stem	Confluence with Salt Creek to Nebraska Hwy	11.0 miles	X	X						
Stevens Creek Tribs	Main stem to 150 acre drainage	26.0 miles	X	X						
Cardwell Branch	Confluence with Salt Creek to Yankee Hill Dam	9.3 miles	X	X						
Salt Creek (south)	Saltillo Road to Superior Street	17.0 miles	X	X						
Salt Creek (north)	Superior Street to Stevens Creek Confluence	4.6 miles	X	X						

This project will be completed by the Mapping Partners listed below:

City of Lincoln, Nebraska  
Black & Veatch  
The Mapping Coordination Contractor

The activities, and who will complete them, are summarized in the table below.

The following sections describe the specific mapping activities associated with this mapping project. Each activity description identifies the responsible Mapping Partners, the Standards that must be met, and resultant map component.

#### Summary of Project Tasks and Assignments

Tasks	Black & Veatch	The City of Lincoln, NE	FEMA (MCC)
Task 1 – Field Surveys and Reconnaissance		X	
Task 2 – Topographic Data Development		X	
Task 3 – Independent QA/QC Review of Topographic Data			X
Task 4 –Hydrologic Analyses		X	
Task 5–Independent QA/QC Review of			X

Hydrologic Analyses			
Task 6 – Hydraulic Analyses		X	
Task 7 – Independent QA/QC Review of Hydraulic Analyses			X
Task 8 – Floodplain Mapping (Detailed Riverine)		X	
Task 8A – Floodplain Mapping (Redelineation Using Effective Flood Profiles and Updated Topographic Data)			
Task 8B – Floodplain Mapping (Refinement or Creation of Zone A)			
Task 9 – Independent QA/QC Review of Floodplain Mapping (Revised Areas)			X
Task 10 – Base Map Acquisition	X	X	
Task 11 – DFIRM Production (Non-Revised Areas)	X		
Task 11A – Independent QA/QC Review of DFIRM Production (Non-Revised Areas)			X
Task 12 – DFIRM Production (Merge Revised and Non-Revised Information)	X		
Task 12A – Application of DFIRM Graphic and Database Specifications	X		
Task 12B – Independent QA/QC Review of DFIRM Product Meeting FEMA Graphic and Database Specifications			X
Task 13 – Preliminary DFIRM and FIS Report Distribution			X
Task 14 – Post-Preliminary Processing			X

## Activity 1 - Field Surveys and Reconnaissance

Responsible Mapping Partner: City of Lincoln, Nebraska

Scope: To supplement any field reconnaissance conducted during the Project Scoping phase of this project, the City of Lincoln shall conduct a detailed field reconnaissance of the specific study area to determine conditions along the floodplain(s), types and numbers of hydraulic and/or flood-control structures, apparent maintenance or lack thereof of existing hydraulic structures, locations of cross sections to be surveyed, and other parameters needed for the hydrologic and hydraulic analyses.

In addition to the initial field reconnaissance, the City of Lincoln shall conduct field surveys, including obtaining channel and floodplain cross sections, identifying or establishing Temporary Bench Marks, and obtaining the physical dimensions of hydraulic and flood-control structures. The City of Lincoln also shall coordinate with other Mapping Partners that are collecting topographic data under Activity 2.

The vertical datum for all field surveys will be NAVD 1988.

Standards: All work under Activity 1 shall be performed in accordance with the standards specified in Section 5 of this MAS.

Deliverables: In accordance with the Technical Support Data Notebook (TSDN) format described in described in Appendix M of *Guidelines and Specifications for Flood Hazard Mapping Partners*, the City of Lincoln shall make the following products available to FEMA:

- A report summarizing the findings of the field reconnaissance;
- Maps and drawings that provide the detailed survey results; and
- Survey notebook containing cross sections and structural data.
- All products may be provided in a digital format.

Appendix M may be downloaded from the FEMA Flood Hazard Mapping Web site at [www.fema.gov/mit/tsd/fm\\_gsam.pdf](http://www.fema.gov/mit/tsd/fm_gsam.pdf).

## Activity 2 - Topographic Data Development

Responsible Mapping Partner: City of Lincoln, NE

Scope: To supplement the field surveys conducted under Activity 1, the City of Lincoln shall obtain additional topographic data of the overbank areas of the flooding sources studied to delineate floodplain boundaries. Specifically, the City of Lincoln shall generate new topographic data for flooding sources listed earlier in this MAS using aerial Photogrammetry taken in 1997 with a contour interval of 2'. The City of Lincoln also shall coordinate with other team members conducting field surveys under Activity 1. Contour interval and/or accuracy for the topographic data shall be selected based on the current FEMA requirements as documented in *Guidelines and Specifications for Flood Hazard Mapping Partners*.

The vertical datum for topographic data shall be NAVD 1988.

Standards: All work under Activity 2 shall be performed in accordance with the standards specified in Section 5 of this MAS.

Deliverables: Upon completion of topographic data collection and processing for flooding sources listed earlier in this MAS, the City of Lincoln shall submit these data to MCC for an independent QA/QC review under Activity 3. The City of Lincoln shall submit data for the remaining flooding sources for a final QA/QC review at the completion of this activity.

In accordance with the TSDN format described in described in Appendix M of *Guidelines and Specifications for Flood Hazard Mapping Partners*, the City of Lincoln, NE shall make the following products available to FEMA:

- Completed Form No. 5 of *Revisions to National Flood Insurance Program Maps, Application/Certification Forms and Instructions* (MT-2), which is available from the FEMA Flood Hazard Mapping Web site at [http://www.fema.gov/fhm/dl\\_mt-2.shtm](http://www.fema.gov/fhm/dl_mt-2.shtm);
- Report summarizing methodology and results;
- Triangular Irregular Network (TIN) data on CD-ROM;
- Digital work maps with contours;
- Checkpoint analyses to assess the accuracy of TIN data including Root Mean Square Error calculations to support vertical accuracy;
- Identification of remote-sensing data voids and methods used to supplement data voids;
- National Geodetic Survey data sheets for Network Control Points used to control remote-sensing and ground surveys; and
- Metadata compliant with Federal Geographic Data Committee standards.

Appendix M may be downloaded from the FEMA Flood Hazard Mapping Web site at [www.fema.gov/mit/tsd/frm\\_gsam.pdf](http://www.fema.gov/mit/tsd/frm_gsam.pdf).

### Activity 3 - Independent QA/QC Review of Topographic Data

Responsible Mapping Partner: MCC

Scope: MCC shall review the mapping data generated by the City of Lincoln under Activity 2 to ensure that these data are consistent with FEMA standards and standard engineering practice and are sufficient to prepare the DFIRM.

Standards: All work under Activity 3 shall be performed in accordance with the standards specified in Section 5 of this MAS.

Deliverables: In accordance with the TSDN format described in described in Appendix M of *Guidelines and Specifications for Flood Hazard Mapping Partners*, MCC shall make the following products available to FEMA:

- A Summary Report that describes the findings of the independent QA/QC review; and
- Recommendations to resolve any problems that are identified during the independent QA/QC review.

Appendix M may be downloaded from the FEMA Flood Hazard Mapping Web site at [www.fema.gov/mit/tsd/frm\\_qsam.pdf](http://www.fema.gov/mit/tsd/frm_qsam.pdf).

#### Activity 4 - Hydrology


Responsible Entity: City of Lincoln, Nebraska

Scope: Hydrologic analyses will be completed for approximately 85.3 square miles of drainage area for the flooding source(s) listed in Section 1 of this Mapping Activity Statement, except for Salt Creek. The hydrologic methods used for this analysis will be HEC-HMS. Hydrologic analyses will be completed for approximately 588 square miles of drainage area for Salt Creek. The hydrologic methods used for this analysis will be extreme probability – discharge relationships. Peak flood discharges will be calculated for the 10%, 2%, 1% and 0.2% annual chance storm events. These flood discharges will be the basis for subsequent hydraulic analyses of the subject flooding source(s). In addition, City of Lincoln, Nebraska will be responsible for addressing all concerns or questions regarding this Activity raised during the QA/QC review outlined in Activity ~~2~~. 5

Standards: All work conducted under this Activity shall conform to the standards specified for this Activity in Section 5 of this Mapping Activity Statement.

Products: Upon completion of hydrologic modeling for Beal Slough, Southeast Upper Salt Creek, Stevens Creek, Cardwell Branch, and Salt Creek, City of Lincoln, Nebraska will submit the results to Mapping Coordination Contractor for an independent QA/QC review as described in Activity ~~2~~. 5

In accordance with the TSDN format described in Section 2, City of Lincoln, Nebraska shall make the following products available to FEMA.

-  Digital copies of all hydrologic modeling (input and output) files for the 10%, 2%, 1% and 0.2% annual chance storm events.
- "Summary of Discharges" table(s) presenting discharge data for each flooding source.
- Draft text for Section 3.1, Hydrologic Analyses, of FIS report.
- Appropriate application/certification form for hydrology from the MT-2 package.
- All backup data used in the analysis, including work maps.
- For GIS-based modeling, products include all input and output data, intermediate data processing products, GIS data layers, and final products.

## Activity 5 - Independent QA/QC Review of Hydrologic Analyses

Responsible Entity: Mapping Coordination Contractor

Scope: The Mapping Coordination Contractor shall review the technical, scientific, and other information submitted by City of Lincoln, Nebraska under Activity 1 of this Mapping Activity Statement to ensure that the data and modeling are consistent with FEMA standards and standard engineering practices and are sufficient to revise the FIRM. This work will include, at a minimum, the following activities:

- Review submittal for technical and regulatory adequacy, completeness of required information, application/certification forms, and supporting data and documentation. The technical review will focus on:
  - Use of acceptable models;
  - Use of appropriate methodology(ies);
  - Correctly applied methodology(ies)/model(s), including QC of input parameters;
  - Comparison with gage data and/or regression equations, if appropriate; and
  - Comparison with discharges for contiguous reaches or flooding sources.
- Maintain records of all contacts, reviews, recommendations, and actions and make them readily available to FEMA.
- Maintain an archive of all data submitted for hydrologic modeling review. All supporting data should be retained for 3 years from the date funding recipient submits its final expenditure report to FEMA.

Standards: All work conducted under this Activity shall conform to the standards specified for this Activity in Section 5 of this Mapping Activity Statement.

Products: In accordance with the TSDN format described in Section 2, Mapping Coordination Contractor shall make the following products available to FEMA.

- A Summary Report that describes the findings of the independent QA/QC review; and
- Recommendations to resolve any problems that arise as a result of the QA/QC review.

## Activity 6 – Hydraulic Analyses

Responsible Entity: City of Lincoln, Nebraska

Scope: City of Lincoln, Nebraska will perform hydraulic analyses for approximately 94.3 miles of the flooding sources listed in the Section 1 of this Mapping Activity Statement. The modeling will include the 10%, 2%, 1% and 0.2% annual chance storm events based on peak discharges computed under Activity 1. The hydraulic methods used for this analysis will include HEC-RAS. Salt Creek will require hydraulic analysis using unsteady HEC-RAS. The City of Lincoln, Nebraska will use cross-section and field data collected previously to perform the hydraulic analyses. The hydraulic analyses will be used to establish flood elevations and regulatory floodways for the subject flooding sources. The City of Lincoln, Nebraska shall use a FEMA checking program, CHECK-2 (if HEC-2 hydraulic model is used) or CHECK-RAS (if HEC-RAS hydraulic model is used), to check the reasonableness of hydraulic analyses. To facilitate the independent QA/QC review under Activity 4, the City of Lincoln, Nebraska shall provide an explanation for each unresolved message from the CHECK-2 or CHECK-RAS program, as appropriate. In addition, the City of Lincoln, Nebraska will address all concerns or questions regarding this Activity raised during the independent QA/QC review under Activity 4. 7

Standards: All work conducted under this Activity shall conform to the standards specified for this Activity in Section 5 of this Mapping Activity Statement.

Products: Upon completion of hydraulic modeling for Beal Slough, Southeast Upper Salt Creek, Stevens Creek, Cardwell Branch, and Salt Creek, the City of Lincoln, Nebraska, will submit the results to Mapping Coordination Contractor for an independent QA/QC review as described in Activity 4. The City of Lincoln, Nebraska will submit the results for the remaining flooding sources for an independent QA/QC review at the completion of this Activity.

In accordance with the TSDN format described in Section 2, the City of Lincoln, Nebraska shall make the following products available to FEMA:

- Digital profiles of the 10%, 2%, 1% and 0.2% and annual chance water-surface elevations representing existing conditions using FEMA's RASPLOT program or similar software;
- Floodway Data Table(s) for each subject flooding source. The Floodway Data Table(s) must be compatible with the DFIRM database;
- Digital copies of all hydraulic modeling (input and output) files;
- Table with range of Manning's "n" values
- An explanation for each unresolved message from CHECK-2 or CHECK-RAS program, as appropriate;
- All backup data used in the analyses;
- Draft text for inclusion in Section 3.2, Hydraulic Analyses, of the FIS report; and
- For GIS-based modeling, products include all input and output data, intermediate data processing products, GIS data layers, and final products.



## Activity 7 - Independent QA/QC Review of Hydraulic Analyses

Responsible Entity: Mapping Coordination Contractor

Scope: Mapping Coordination Contractor shall review the technical, scientific, and other information submitted by City of Lincoln, Nebraska under Activity 3 of this Mapping Activity Statement to ensure that the data and modeling are consistent with FEMA standards and standard engineering practices and are sufficient to revise the FIRM. This independent QA/QC review of the hydraulic analyses will include, at a minimum, the following activities:

- Review submittal for technical and regulatory adequacy, completeness of required information, application/certification forms, and supporting data and documentation. The technical review will focus on:
  - Use of acceptable models;
  - Starting water-surface elevations;
  - Cross section geometry;
  - Manning's "n" values and expansion/contraction coefficients;
  - Bridge and culvert modeling;
  - Discharges;
  - Regulatory floodway computation methods; and
  - Tie-in to upstream and downstream non-revised profiles.
- Use the CHECK-2 (when HEC-2 model was used) or CHECK-RAS (when HEC-RAS model was used) programs to flag potential problems and focus review efforts.
- Maintain records of all contacts, reviews, recommendations, and actions and make them readily available to FEMA.
- Maintain an archive of all data submitted for hydraulic modeling review. (All supporting data must be retained for 3 years from the date funding recipient submits its final expenditure report to FEMA.)

Standards: All work conducted under this Activity shall conform to the standards specified for this Activity in Section 5 of this Mapping Activity Statement.

Products: In accordance with the TSDN format described in Section 2, Mapping Coordination Contractor shall make the following products available to FEMA:

- A Summary Report that describes the findings of the independent QA/QC review and
- Recommendations to resolve any problems that arise as a result of the independent QA/QC review.

## Activity 8 – Floodplain Mapping (Detailed Riverine)

Responsible Entity: City of Lincoln, Nebraska

Scope: The City of Lincoln, Nebraska shall delineate digital floodplain and regulatory floodway boundaries for the flooding sources listed in Section 1 of this Mapping Activity Statement. The mapping will incorporate all revised hydraulic modeling and acquired topographic information. The City of Lincoln, Nebraska will delineate the floodplain boundaries for the 1% and 0.2% recurrence intervals and the regulatory floodway on a digital work map based on existing topography or topographic data developed previously, which will be the basis of the revised FIRM. The City of Lincoln, Nebraska will provide an explanation for selecting an existing topographic map if one is used for the floodplain boundary delineation. The City of Lincoln, Nebraska will incorporate the results of all effective Letters of Map Change as appropriate. In addition, City of Lincoln, Nebraska will address all concerns or questions regarding this Activity raised during the independent QA/QC review outlined in Activity 6. 9

Standards: All work conducted under this Activity shall conform to the standards specified for this Activity in Section 5 of this Mapping Activity Statement.

Products: Upon completion of floodplain mapping for Beal Slough, Southeast Upper Salt Creek, Stevens Creek, Cardwell Branch, and Salt Creek, City of Lincoln, Nebraska will submit the results to Mapping Coordination Contractor for an independent QA/QC review under Activity 6. 9

In accordance with the TSDN format described in Section 2, City of Lincoln, Nebraska shall make the following products available to FEMA:

- Digital work maps with the 1% and 0.2% annual chance floodplain boundary delineations, regulatory floodway boundary delineations, cross sections, Base Flood Elevations (BFEs), zone designation labels, and all applicable base map features;
- Explanation for the selection of an existing topographic map;
- DFIRM mapping files, in one of the GIS file and database formats specified in FEMA's DFIRM Specifications;
- Metadata files describing the DFIRM data, including the required information shown in the examples shown in FEMA's DFIRM Specifications;
- A QA/QC report that includes a description and the results of all automated or manual QA/QC steps taken during the preparation of the DFIRM; and
- Any backup or supplemental information used in the mapping required for the independent QA/QC review outlined in Activity 6. 9

## **Activity 9 - Independent QA/QC Review of Floodplain Mapping**

Responsible Entity: Mapping Coordination Contractor

Scope: Mapping Coordination Contractor shall review the floodplain work maps submitted by City of Lincoln, Nebraska under Activity 5 of this Mapping Activity Statement to ensure that the results of the hydraulic analyses are accurately represented on the work maps. This work will include, at a minimum, the following activities:

- Review the cross sections for proper location and orientation on the work map and agreement with the Floodway Data Table.
- Review the BFEs shown on the work map for proper location and agreement with the results of the hydraulic modeling.
- Review the regulatory floodway widths for agreement with the widths shown in the Floodway Data Table and the results of the hydraulic modeling.
- Review the floodplain boundaries for agreement with the flood elevations shown in the Floodway Data Table and the contour lines and other topographic information shown on the work maps.
- Floodplain widths at cross section must match floodway data table. Floodplain boundaries as shown on work maps match profiles
- Ensure zone designations are indicated properly.
- Ensure DFIRM mapping files are in one of the GIS file and database formats specified in FEMA's DFIRM Specifications and conform to those specifications for content and attribution.
- Ensure metadata files describing the DFIRM data include the required information and follow the examples shown in FEMA's DFIRM Specifications.

Standards: All work conducted under this Activity shall conform to the standards specified for this Activity in Section 5 of this Mapping Activity Statement.

Products: In accordance with the TSDN format described in Section 2, Mapping Coordination Contractor shall make the following products available to FEMA:

- A Summary Report that describes the findings of the independent QA/QC review noting any deficiencies and providing recommendations to resolve them or agreeing with the mapping results; and
- An annotated work map with all questions and/or concerns indicated if necessary.

## **Activity 10 - Base Map Acquisition and Preparation**

Responsible Entity: City of Lincoln, Nebraska

Scope: This is a required activity when Activity 8 is performed. This activity consists of obtaining the digital base map for the project. The City of Lincoln, Nebraska shall:

- Obtain digital files (vector) of the base map;
- Secure necessary permissions from the map source to allow FEMA's use and distribution of hardcopy and digital map products using the digital base map, free of charge;
- Certify that the digital data meet the minimum standards and specifications that FEMA requires for DFIRM production; and
- Populate the DFIRM database for base map features and applicable data.

Standards: All work conducted under this Activity shall conform to the standards specified for this Activity in Section 5 of this Mapping Activity Statement.

Products: In accordance with the TSDN format described in Section 2, the City of Lincoln, Nebraska shall make the following products available to FEMA.

- Written certification that the digital data meet the minimum FEMA standards and specifications; and
- Documentation that FEMA can use the digital base map.

## Activity 11- DFIRM Production (Non-Revised Areas)

Responsible Entity: Black & Veatch

Scope: For all flooding sources except those specified in Section 1 of this Mapping Activity Statement (that will have updated flood data developed under Activities 1 through 6), Black & Veatch will convert the effective FIRM/FBFM panels to digital format in conformance with FEMA's DFIRM specifications. Black & Veatch will use the base map acquired under Activity 10 of this Mapping Activity Statement for the conversion. The scope of this Activity covers the digitization of 83 FIRM panels and no FBFM panels. Black & Veatch also will incorporate LOMCs issued by FEMA since the current effective FIRM for each affected community. The digital flood theme for the flooding sources specified in Section 1 will not be digitized as part of this Activity; rather, Black & Veatch will leave these as "holes" in the digital flood theme that will be filled in as part of Activity 9 using digital flood data from Activity 5.

This activity will be assigned to Black & Veatch as a task order for EMK-2001-CO-2019.

Standards: All work conducted under this Activity shall conform to the standards specified for this Activity in Section 5 of this Mapping Activity Statement.

Products: In accordance with the TSDN format described in Section 2, Black & Veatch shall make the following products available to FEMA.

- DFIRM mapping files, in one of the GIS file and database formats specified in FEMA's DFIRM Specifications;
- The vertical datum for all non-revised flood sources will be converted to NAGV 1988. This conversion is necessary to match the revised data produced by the City of Lincoln.
- Metadata files describing the DFIRM data, including the required information shown in the examples shown in FEMA's DFIRM Specifications;
- Complete set of plots of the DFIRM panels showing all unrevised flood hazard information taken from the effective FIRMs and FBFMs at a suitable scale; and
- A QA/QC report that includes a description and the results of all automated or manual quality assurance steps taken during the preparation of the DFIRMs, including a check that the road and floodplain relationship is maintained for all unrevised areas.

## **Activity 11A - Independent QA/QC Review of DFIRM Production (Non-Revised Areas)**

Responsible Entity: Mapping Coordination Contractor

Scope: : Mapping Coordination Contractor shall review the DFIRM panels submitted by Black & Veatch under Activity 8 of this Mapping Activity Statement to ensure that the unrevised flood hazard information taken from the effective FIRM and FBFM panels is accurately represented on the DFIRM panels. This work will include, at a minimum, ensuring the following:

- Unrevised flood hazard information shown on the effective FIRM and FBFM panels is completely and accurately captured in the digital files.
- The floodway widths agree with the widths shown in the Floodway Data Table(s) and the results of the hydraulic modeling within a tolerance of 5 percent.
- The distances between cross sections agree with the distances shown in the Floodway Data Table(s) and the results of the hydraulic modeling within a tolerance of 5 percent.
- Road and floodplain relationships are maintained for all unrevised areas.
- DFIRM mapping files are in one of the GIS file and database formats specified in FEMA's DFIRM Specifications and conform to those specifications for content and attribution.
- Metadata files describing the DFIRM data include the required information and follow the examples shown in FEMA's DFIRM Specifications.

Standards: All work conducted under this Activity shall conform to the standards specified for this Activity in Section 5 of this Mapping Activity Statement.

Products: In accordance with the TSDN format described in Section 2, : Mapping Coordination Contractor shall make the following products available to FEMA.

- A Summary Report that describes the findings of the independent QA/QC review, noting any deficiencies and providing recommendations to resolve them or agreeing with the mapping results; and
- Annotated DFIRM panels with all questions and/or concerns indicated, if necessary.

## **Activity 12 – Merge Effective and Revised Information**

Responsible Entity: Black & Veatch

Scope: Upon completion of the Floodplain Mapping activity (Activity 8) for the revised flooding sources and the Digital FIRM Production activity (Activity 11) for Non-Revised flooding sources, the digital floodplain data will be merged into a single, updated Digital FIRM. This work will include tie-in of flood hazard information with contiguous communities that were not studied as part of this project. Also, the revised Flood Profiles, floodplain boundaries, and regulatory floodway boundaries will be tied-in. Black & Veatch and the City of Lincoln, Nebraska will coordinate to resolve any potential tie-in issues.

This activity will be assigned to Black & Veatch as a task order for EMK-2001-CO-2019.

Standards: All work conducted under this Activity shall conform to the standards specified for this Activity in Section 5 of this Mapping Activity Statement.

Products: In accordance with the TSDN format described in Section 2, Black & Veatch shall make the following products available to FEMA.

- Digital work maps, with 1% and 0.2% annual chance floodplain boundary delineations, cross sections, BFEs, zone designation labels, and all applicable base map features shown;
- DFIRM mapping files, in one of the GIS file and database formats specified in FEMA's DFIRM Specifications, provided on CD-ROM;
- Metadata files describing the DFIRM data, including the required information shown in the examples shown in FEMA's DFIRM Specifications, provided on CD-ROM;
- Complete set of plots of DFIRM panels showing all detailed flood hazard information at a suitable scale;
- A QA/QC report that includes a description and the results of all automated or manual QA/QC steps taken during the preparation of the DFIRM.

## **Activity 12A – Application of DFIRM Graphic Specifications**

Responsible Entity: Black & Veatch

Scope: Upon completion of merging of effective and revised floodplain mapping into a single, updated DFIRM (Activity 12), Black & Veatch shall apply the final FEMA DFIRM graphic specifications to the DFIRM mapping files. This work will include adding all required annotation, line patterns, area shading, and map collar information (e.g., map borders, title blocks, legends, notes to user).

This activity will be assigned to Black & Veatch as a task order for EMK-2001-CO-2019.

Standards: All work conducted under this Activity shall conform to the standards specified for this Activity in Section 5 of this Mapping Activity Statement.

Products: In accordance with the TSDN format described in Section 2, Black & Veatch shall make the following products available to FEMA.

- DFIRM mapping files in one of the GIS file and database formats specified in FEMA's DFIRM Specifications, provided on CD-ROM;
- DFIRM database files in one of the database formats specified in FEMA's DFIRM Specifications, provided on CD-ROM;
- Metadata files describing the DFIRM data including the required information based on the examples shown in FEMA's DFIRM Specifications;
- Complete set of plots of the DFIRM panels showing all the details at the scale(s) agreed upon in the "Scope of Project;" and
- A QA/QC report that includes a description and the results of all automated or manual quality assurance steps taken during the preparation of the DFIRM.



## Activity 12B - Independent QA/QC Review of DFIRM Graphics

Responsible Entity: Mapping Coordination Contractor

Scope: Mapping Coordination Contractor shall review the DFIRM panels submitted by City under Activity 9A of this Mapping Activity Statement to ensure that the DFIRM panels conform to FEMA's DFIRM graphic standards. This work will include, at a minimum, the following:

- All required DFIRM features are accurately and legibly labeled and follow the examples shown in FEMA's DFIRM Specifications. This includes all flood hazard zones, BFEs, cross sections, coastal transects, studied streams, mapped political entities, and all roads within and adjacent to the 1% annual chance flood hazard areas.
- All DFIRM features are correctly symbolized with the appropriate symbol, line pattern, or area shading and follow the examples shown in FEMA's DFIRM Specifications.
- All map collar information is complete, correct, and follows the examples shown in FEMA's DFIRM Specifications.
- DFIRM mapping files are in one of the GIS file and database formats specified in FEMA's DFIRM Specifications and conform to those specifications for content and attribution.
- DFIRM database files are in one of the database formats specified in FEMA's DFIRM Specifications and conform to those specifications for content and attribution.
- Metadata files describing the DFIRM data include the required information and follow the examples shown in FEMA's DFIRM Specifications.

Standards: All work conducted under this Activity shall conform to the standards specified for this Activity in Section 5 of this Mapping Activity Statement.

Products: In accordance with the TSDN format described in Section 2, Mapping Coordination Contractor shall make the following products available to FEMA.

- A Summary Report that describes the findings of the independent QA/QC review, noting any deficiencies and providing recommendations to resolve them or agreeing with the mapping results; and
- Annotated DFIRM panels with all questions and/or concerns indicated, if necessary.

### Activity 13 – Preparation and Issuance of Preliminary FIS and DFIRM

Responsible Entity: Mapping Coordination Contractor

Scope: This Activity consists of the final preparation, review, and distribution of the Preliminary copies of the FIRM and FIS report for community and public review and comment. The activities to be performed are summarized below.

- *FIS Report Preparation:* Unless instructed otherwise by FEMA, Mapping Coordination Contractor will prepare the revised FIS report in the format of the existing FIS report, revising the report only to reflect current conditions and include updated data tables and flood profiles. At a minimum, the FIS report will include the following: text; cover; vicinity map; data tables; photographs (if available); flood profiles; floodway schematic; and, when necessary, transect schematic and transect location map.
- *Quality Assurance/Quality Control:* Final QA/QC review of the FIS report, including all data tables, profiles, and other components of the FIS, as appropriate, and the news release will be conducted. The QA/QC procedures will be consistent with FEMA standards outlined below for this activity.
- *Discrepancy Resolution:* Mapping Coordination Contractor will be responsible for working with City of Lincoln, Nebraska who is responsible for performing the activities of this project to resolve discrepancies identified during QA/QC.
- *Distribution of Preliminary DFIRM and FIS Report:* Mapping Coordination Contractor will distribute the preliminary copies of the FIS report and DFIRM to the affected communities, State agencies, and others as identified by FEMA.
- *News Release and Federal Register Notice Preparation:* Mapping Coordination Contractor will prepare the news release notifications of BFE changes. The news release will summarize newly proposed BFEs, modifications to existing BFEs, and any changes to the community's floodplain management ordinances to be NFIP compliant. Upon completion of a 30-day community comment period and/or final meeting with the community, and upon initiation of the 90-day appeal period, the Mapping Coordination Contractor will arrange for and verify that the news release is published in the prominent newspaper(s) with local circulation within each affected community identified by the community and FEMA. Mapping Coordination Contractor also will arrange for and verify that a similar notice is published in the *Federal Register*.

Standards: All work conducted under this Activity shall conform to the standards specified for this Activity in Section 5 of this Mapping Activity Statement.

Products: In accordance with the TSDN format described in Section 2, Mapping Coordination Contractor shall make the following products available to FEMA:

- Printed preliminary DFIRMs and FIS reports, including all updated data tables and flood profiles for mailing to the CEO of each community, the State NFIP Coordinator, the FEMA Regional Office, and others as directed by FEMA;
- Preliminary transmittal letter(s);
- DFIRM mapping files in one of the database formats specified in FEMA's DFIRM Specifications;
- DFIRM database files in one of the database formats specified in FEMA's DFIRM Specifications;
- Metadata files describing the DFIRM data, including the required information as presented in the examples shown in FEMA's DFIRM Specifications;
- A QA/QC report that includes a description and the results of all automated or manual QA/QC steps taken during the preparation of the preliminary copies of the DFIRM and FIS report;

- Documentation showing that the news release(s) was published correctly in accordance with FEMA requirements and that a similar notice was published correctly in the *Federal Register* in accordance with FEMA requirements

## Activity 14 - Post-Preliminary Processing

Responsible Entity: Mapping Coordination Contractor

Scope: This Activity consists of finalizing the DFIRM and FIS report after the preliminary FIS and DFIRM have been issued for public review and comment. The activities to be performed include:

- *Participating in Public Meetings:* When FEMA holds public meetings to present and discuss the results of this Flood Map Project, City of Lincoln, Nebraska and Mapping Coordination Contractor will attend the meetings and assist FEMA in the presentation as required.
- *Resolving Appeals and Protests:* Appeals and protests received during the 90-day appeal period will be reviewed and resolved prior to finalizing the FIRMs and FIS report. City of Lincoln, Nebraska and Mapping Coordination Contractor will provide support to FEMA in resolving appeals and protests. Activities may include, but not limited to, attending community meetings and assisting FEMA and the Mapping Coordination Contractor in addressing any issues that may arise in resolving appeals and protests from affected communities. For a typical appeal and protest, the following activities will be conducted: initial processing of the appeal/protest, performing a technical review of the appeal/protest, preparing letters to request additional data, performing revised analyses, and preparing a proposed resolution for FEMA's review. Mapping Coordination Contractor will mail all associated correspondence upon authorization by FEMA.
- *Special Correspondence:* Comments received within the 90-day appeal period (referred to as "special correspondence") will be reviewed, and responses will be drafted by Mapping Coordination Contractor for FEMA's review. Mapping Coordination Contractor will also mail the final correspondence upon authorization by FEMA. *8, 11, 12*
- *Revise DFIRMs and FIS Report:* If necessary, Mapping Coordination Contractor will work with those parties responsible for preparing the DFIRM under Activities 5, 8, and 9 to prepare revised preliminary copies of the DFIRMs and FIS report, including all data tables and flood profiles. Mapping Coordination Contractor will mail all revised preliminary copies of DFIRMs and associated correspondence upon authorization by FEMA.
- *Letter of Final Determination:* Mapping Coordination Contractor will work with FEMA to establish an effective date for the DFIRM and FIS report, prepare a Letter of Final Determination (LFD) for FEMA review and signature, prepare a final notice for publication in the *Federal Register*, mail the LFD with appropriate enclosures, and coordinate publication of the final notice in the *Federal Register*.
- *GPO Processing:* Mapping Coordination Contractor will prepare final copies of the DFIRM and FIS report, and provide them to FEMA. This will include preparing camera-ready film negatives of the DFIRM and paper copies of the FIS report, including flood profiles; preparing appropriate paperwork to be included with DFIRM and FIS report materials, including the transmittal letter to the community CEO, the print processing worksheet, the Printing Requisition Form, and the Community Map Action Form; and delivering the final materials and paperwork to FEMA in the format prescribed by FEMA.
- *Archiving Data:* Mapping Coordination Contractor will package the backup data and correspondence for this Flood Map Project and transmit it to the Engineering Study Data Package Facility.

Standards: All work conducted under this Activity shall conform to the standards specified for this Activity in Section 5 of this Mapping Activity Statement.

Products: In accordance with the TSDN format described in Section 2, Mapping Coordination Contractor shall make the following products available to FEMA as required:

- Draft LFD and associated backup data and information for FEMA review;

- Draft Special Correspondence and backup data and information for FEMA review;
- Appeal and Protest resolution letters, and all backup data and information for FEMA review;
- Printed sets of DFIRM negatives and paper FIS reports, including all updated data tables and flood profiles;
- Paperwork required for printing of DFIRM panels and FIS report;
- Complete DFIRM spatial database; and
- Completed and organized Engineering Study Data Packages.

## 2. Technical and Administrative Support Data Submittal

The Project Team members for this Flood Map Project that have responsibilities for activities included in this MAS shall comply with the data submittal requirements summarized below.

All supporting documentation for the activities in this Mapping Activity Statement shall be submitted in the TSDN format in accordance with Appendix M of the FEMA *Guidelines and Specifications for Flood Hazard Mapping Partners*, dated April 2003. Appendix M is available for viewing or download on the FEMA Web site at [http://www.fema.gov/mit/tsd/frm\\_gsam.pdf](http://www.fema.gov/mit/tsd/frm_gsam.pdf). Table 2-1 indicates the sections of the TSDN that apply to each mapping activity.

If any issues arise that could affect the completion of an activity within the proposed scope or budget, the responsible Mapping Partner shall complete a Special Problem Report (SPR) as soon as possible after the issue is identified and submitted to FEMA. The SPR is to describe the issue and propose possible resolutions. (For additional information on SPRs, refer to Appendix M, Subsection M.2.1.1 of *Guidelines and Specifications for Flood Hazard Mapping Partners*.)

Additionally, the MCC shall collect and maintain a set of products for all Activities and shall compile a comprehensive TSDN for the entire project.

TSDN Section	Mapping Activities													
	1	2	3	4	5	6	7	8	9	10	12, 12A	13	14	
General Documentation														
Special Problem Reports	X	X	X	X	X	X	X	X	X	X	X	X	X	
Telephone Conversation Reports	X	X	X	X	X	X	X	X	X	X	X	X	X	
Meeting Minutes/Reports	X	X	X	X	X	X	X	X	X	X	X	X	X	
General Correspondence	X	X	X	X	X	X	X	X	X	X	X	X	X	
Engineering Analyses														
Hydrologic Analyses	X			X	X	X	X	X	X					
Hydraulic Analyses	X			X	X	X	X	X	X					
Key to Cross-Section Labeling	X			X	X	X	X	X	X					
Key to Transect Labeling	X			X	X	X	X	X	X					
Draft FIS Report				X	X	X	X							
Mapping Information								X	X	X	X	X	X	
Miscellaneous Reference Information	X	X	X	X	X	X	X	X	X	X	X	X	X	

3. **Period of Performance:** The mapping activities assigned to the City of Lincoln in this MAS will be completed as specified in the Agreement Articles of the Cooperative Agreement.
4. **Funding/Cost-Sharing:** Funds will be provided by FEMA through a cooperative agreement EMK-2003-CA-3044) for the completion for this Flood Map Project. The cooperative agreement budget identifies the amount to be provided by each party. The City of Lincoln shall provide any additional resources required to complete the assigned activities for this Flood Map Project.
5. **Standards:** The standards relevant to this Mapping Activity Statement are provided in Tables 5-1 and 5-2. Information on the correct volume, appendix, section, or subsection of the FEMA *Guidelines and Specifications for Flood Hazard Mapping Partners (April 2003)* to be referenced for each mapping activity are summarized in Table 5-2.

These Guidelines are available for viewing or download from the FEMA Flood Hazard Mapping Web site at [http://www.fema.gov/mit/tsd/dl\\_cqs.htm](http://www.fema.gov/mit/tsd/dl_cqs.htm).

Table 5-1. Applicable Standards for Project Activities

Applicable Standards	Activities												
	1	2	3	4	5	6	7	8	9	10	12, 12A	13	14
<i>Guidelines and Specifications for Flood Hazard Mapping Partners</i> , April 2003	X	X	X	X	X	X	X	X	X	X	X	X	X
American Congress on Surveying and Mapping (ACSM) procedures	X												
Global Positioning System (GPS) Surveys: National Geodetic Survey (NGS-58), "Guidelines for Establishing GPS-Derived Ellipsoid Heights," November 1997	X	X	X										
EM 1000-1-1000, <i>Photogrammetric Mapping</i> , March 31, 1993	X	X	X										
EM 1110-2-1003, <i>Hydrographic Surveys</i> , October 31, 1994	X		X										
Numerical Models Accepted by FEMA for NFIP Usage, January 11, 2002				X	X	X	X						
<i>Content Standards for Digital Geospatial Metadata</i> (Federal Geographic Data Committee, 1998)								X	X	X	X	X	X
<i>Document Control Procedures Manual</i> , December 2000											X	X	X



**Table 5-2. Project Activities and Applicable Portions of FEMA Guidelines and Specifications**

Activity Number	Activity Description	Applicable Volume, Section/Subsection, and Appendix
1	Field Surveys and Reconnaissance	Volume 1, Sections 1.2, 1.3, 1.4 (specifically Subsection 1.4.2.1) Appendix A, Sections A.5, A.6, A.7, and A.8 Appendices B, C, and M
2	Topographic Data Development	Volume 1, Section 1.4 (specifically Subsection 1.4.2.1) Appendix A, Sections A.2 and A.3 Appendix M
3	Independent QA/QC Review of Topographic Data	Volume 1, Section 1.4 (specifically Subsections 1.4.1 and 1.4.2.1) Appendix A, Sections A.2, A.3, A.7 (specifically Subsection A.7.5), and A.8 (specifically Subsection A.8.6) Appendix M
4	Hydrologic Analyses	Volume 1, Section 1.4 (specifically Subsections 1.4.2.2 and 1.4.2.4) Appendix C, Sections C.1 and C.7 Appendices E, F, G, H, and M
5	Independent QA/QC Review of Hydrologic Analyses	Volume 1, Section 1.4 (specifically Subsection 1.4.1) Appendix C, Section C.2 Appendices E, F, G, H, and M

**Table 5-2. Project Activities and Applicable Portions of FEMA Guidelines and Specifications (Cont'd)**

Activity Number	Activity Description	Applicable Volume, Section/Subsection, and Appendix
6	Hydraulic Analyses	Volume 1, Section 1.4 (specifically Subsections 1.4.2.2 and 1.4.2.4) Appendix C, Sections C.3 and C.7 Appendices B, E, F, G, H, and M
7	Independent QA/QC Review of Hydraulic Analyses	Volume 1, Section 1.4 (specifically Subsection 1.4.1) Appendix A, Section A.4 (specifically Subsection A.4.7) Appendix C, Section C.5 Appendices B, E, F, G, H, and M
8	Floodplain Mapping (Detailed Riverine or Coastal Analysis)	Volume 1, Section 1.4 (specifically Subsection 1.4.2.3) Appendix C, Sections C. 4 and C.6 Appendices K, L, and M
9	Independent QA/QC Review of Floodplain Mapping (Revised Areas)	Volume 1, Section 1.4 (specifically Subsection 1.4.2.3) Appendix C, Sections C.4 and C.6 Appendices K, L, and M

**Table 5-2. Project Activities and Applicable Portions of FEMA Guidelines and Specifications (Cont'd)**

Activity Number	Activity Description	Applicable Volume, Section/Subsection, and Appendix
10	Base Map Acquisition and Preparation	Volume 1, Section 1.3 (specifically Subsection 1.3.1.8) and 1.4 (specifically Subsection 1.4.3) Appendices A and B
12	DFIRM Production (Merging Revised and Non-Revised Areas)	Volume 1, Section 1.4 (specifically Subsections 1.4.2.3 and 1.4.3.3) Appendices K, L, and M
12A	DFIRM Production (Application of DFIRM Graphic and Database Specifications)	Volume 1, Section 1.4 (specifically Subsection 1.4.3) Appendices K, L, and M
12B	Independent QA/QC Review of DFIRM Product Meeting FEMA Graphic and Database Specifications	Volume 1, Section 1.4 (specifically Subsections 1.4.2.3 and 1.4.3.3) Appendices K, L, and M
13	Preliminary DFIRM and FIS Report Distribution	Volume 1, Section 1.4 (specifically Subsections 1.4.2 and 1.4.3) Appendix C, Sections C.4 and C.6 Appendices J, K, L, and M
14	Post-Preliminary Processing	Volume 1, Section 1.4 (specifically Subsection 1.4.2 and 1.4.3) Appendices J, K, L, and M

## **6. Schedule and Milestones:**

Monitoring Information for Contracted Studies (MICS) will be used to report progress for this Mapping Activity Statement. The initial schedule will be established within two weeks of funds award, and the schedule progress will be updated no later than 30 days after the end of each quarter.

If changes to the schedule are required, the responsible Mapping Partner shall coordinate with FEMA and the other Mapping Partners in a timely manner.

## **7. Certification:** The following certifications apply to this Mapping Activity Statement (as appropriate):

The following certifications apply to this MAS:

### **Activity 1 (Field Surveys and Reconnaissance)**

A Registered Professional Engineer or Licensed Land Surveyor will certify topographic data, in accordance with 44 CFR 65.5(c). Certification of topographic data by the American Society for Photogrammetry and Remote Sensing is also acceptable.

### **Task 4 (Hydrologic Analyses), Task 6 (Hydraulic Analyses), Task 8 (Floodplain Mapping-- Detailed Riverine or Coastal Analysis), Task 8A (Floodplain Mapping {Redelineation Using Effective Flood Profiles and Updated Topographic Data}), and Task 8B (Floodplain Mapping {Refinement or Creation of Zone A})**

- A Registered Professional Engineer or Licensed Land Surveyor will certify hydrologic and hydraulic analyses and data in accordance with 44 CFR 65.6(f).
- A Registered Professional Engineer or Licensed Land Surveyor will certify topographic information in accordance with 44 CFR 65.5(c).
- Any levee systems to be accredited will be certified in accordance with 44 CFR 65.10(e).

### **Task 8 (Floodplain Mapping-- Detailed Riverine), Task 8A (Floodplain Mapping {Redelineation Using Effective Flood Profiles and Updated Topographic Data}), and Task 8B (Floodplain Mapping {Refinement or Creation of Zone A}), Task 9 (Independent QA/OC Review of Floodplain Mapping {Revised Areas}), Task 11 (DFIRM Production {Non-Revised Areas}), Task 12 (DFIRM Production {Merging Revised and Non-Revised Information}), and Task 12A (Application of DFIRM Graphic and Database Specifications)**

- The DFIRM metadata files will include a description of the horizontal and vertical accuracy of the DFIRM base map and floodplain information.

### **Activity 10 (Base Map Acquisition and Preparation)**

- A community official or responsible party will provide written certification that the digital data meet FEMA minimum standards and specifications.
- The responsible Mapping Partner will provide documentation that the digital base map can be used by FEMA.

## **8. Technical Assistance and Resources:** City of Lincoln, Nebraska may obtain copies of FEMA-issued LOMCs, archived engineering backup data, and data collected as part of the Mapping Needs Assessment Process from the MCC. The MCC may be contacted at 1-877 FEMA MAP (1-877-336-2627). General technical and programmatic information, such as FEMA 265, the Quick-2 computer program, and the MT-2 forms, can be downloaded from FEMA's Flood Hazard Mapping website ([www.fema.gov/mit/tsd/](http://www.fema.gov/mit/tsd/)). Specific technical and programmatic support may be provided through

FEMA's MCC; such assistance should be requested through the FEMA MCC Project Officer specified in Section 11 of this Mapping Activity Statement.

City of Lincoln, Nebraska may also consult with the FEMA Regional Project Officer to request support in the areas of selection of data sources, digital data accuracy standards, assessment of vertical data accuracy, data collection methods or sub-contractors, and GIS-based engineering and modeling training.

9. **Contractors:** City of Lincoln will ensure that procurement of subcontractors as part of this Mapping Activity Statement complies with the requirements of 44 CFR 13.36.

Part 13 may be downloaded in PDF or text format from the U.S. Government Printing Office Web site at [http://www.access.gpo.gov/nara/cfr/waisidx\\_02/44cfr13\\_02.html](http://www.access.gpo.gov/nara/cfr/waisidx_02/44cfr13_02.html).

10. **Financial Reporting:** Financial reporting requirements will be in accordance with Cooperative Agreement Articles V & VI.

11. **Points of Contact:** The FEMA Regional Project Officer is Bob Franke, and the CTP Project Manager is Ben Higgins or subsequent personnel of comparable experience who are appointed to fulfill these responsibilities. When necessary, the assistance of FEMA's MCC should be requested through the FEMA MCC Project Officer, Bob Franke.

12. **Project Coordination:** Throughout the project, all members of the Project Team will coordinate, as necessary, to ensure the products meet the technical and format specifications required and contain accurate, up-to-date information. Coordination activities shall include:

- Meetings, teleconferences, and video conferences with FEMA and other Project Team members;
- Telephone conversations with FEMA and other Project Team members on an ad hoc basis, as required;
- Updates to the MICS system, Mapping Needs Update Support System database, and other FEMA status information systems in accordance with requirements in Volumes 1 and 3 of *Guidelines and Specifications for Flood Hazard Mapping Partners*; and
- E-mail, facsimile transmissions, and letters, as required.

Each party has caused this Mapping Activity Statement to be executed by its duly authorized representative.

  
Ben Higgins, Senior Engineer  
City of Lincoln, Nebraska

9/5/03  
Date

\_\_\_\_\_  
Robert G. Bissell, Director  
Federal Insurance and Mitigation Division  
Federal Emergency Management Agency

\_\_\_\_\_  
Date